## REMARKS

Claims 11-21 and 23-61 are presently pending in the present application. Claim 33 has been amended to more particularly claim the invention as described in the remarks of the last filed amendment which mistakenly failed to include the claim language change.

The Examiner has now rejected claims 11-21, 23-36, 44-45, and 60-61 under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,544,360 ("Lewak et al.") in view of U.S. Patent 6,029,195 ("Herz"). Applicants contend that the presently pending claims are not obvious in view of the cited prior art and, thus, respectfully traverse the Examiner's rejection.

As described in the previous amendment, the present invention provides a method and system for assisting a computer user with the management of electronic documents such as files and e-mail. Specifically, the invention assists a user with the task of categorizing electronic documents for filing within a collection by suggesting one or more categories in which to file an electronic document. As presently claimed, the system uses an automated "classifier" to categorize a particular document so that the suggested categories are identifiable.

As discussed in Applicant's previous response, Lewak et al. discloses a computer file control system for allowing a user to access "computer files and data therein according to user-designated criteria." (See col. 1, lines 21-26). Specifically, the system, depending on the state that it is in, 1) automatically categorizes a file that has been opened or saved to an uncategorized category and notifies the user of files to be categorized, 2) presents the user with a Categories Window with which to select categories or 3) allows the user to choose a command from a menu to bring up the Categories Window at any time. (See col. 7, line 50 - col. 8., line 5). In each case, the user categorizes the files. There is no mention or suggestion of the use of a classifier.

Herz discloses a method and system of ranking target objects according to a learned interest profile. That is, documents, such as e-mail notes, are ranked in a particular order according to a user profile. There is no mention of ranking categories, much less assisting with category selection by displaying most likely categories.

Claim 11 includes the step of "classifying, with a classifier, a document to obtain a plurality of most likely categorical labels." As admitted by the Examiner, Lewak et al. fails to disclose this limitation. The Examiner, on page 4 of the Office Action, states that "Herz teaches a method of generating for each user a customized rank-ordered listing of target objects most likely to be of interest to that user." The Examiner further states that "It would have been obvious . . . to apply the method of Herz to the method of Lewak, because of Herz's taught advantage of document suggestion, providing an efficient method of allowing users to select articles of interest from a large set of articles." This is simply inaccurate. The present invention, as claimed, teaches a method of predicting, for each document, a location in which the user is likely to want to file that document by utilizing a classifier to obtain most likely categorical labels. The user's interest in a document does not determine the category in which he or she would want the document filed. Therefore, there is no suggestion to combine the two references and the combination, even if suggested, does not disclose all the limitations of claim 11.

The Examiner also states that "Lewak also teaches a method of a user interface, comprising a category window with category descriptions and types." Applicants respectfully point out that this is different from the claimed step of "displaying, to the user, a representation of the plurality of most likely categorical labels." The user interface taught by Lewak allows a user to assign labels to documents by navigating a fixed organization of categorical labels. The interface does not depend of the document being filed and, therefore, fails to include any ability to

display a representation of the most likely categorical labels to assign to a given document. Therefore, again, the combination of references fails to disclose or suggest each of the limitations of claim 11.

Claims 12-21 and 23-61 are similarly allowable in view of Lewak and Herz as they include the limitations of claim 11. Furthermore, these dependent claims incorporate additional limitations which are not disclosed or suggested by the combination of Lewak and Herz. Applicants include some of these additional limitations hereinbelow.

With regard to claim 12, the Examiner states that "Lewak discloses a method whereby a category named E-mail can be defined ...." The concept of a linked category taught by Lewak and referenced by the Examiner, is not the same as the claimed categorization shortcut of the present invention. Lewak's linked categories help the user browse the current category list by organizing several categories into a hierarchy. The linked categories provided by Lewak are not dependent on where the user is likely to want to file each message since the category links are not dependent on the message being filed. Furthermore, linked categories cannot be characterized as shortcuts. Linked categories increase the number of user actions (mouse clicks) required to select a category because the user must first select a super category (e.g., e-mail) before selecting the document's actual category (e.g. letters). The categorization shortcuts claimed in the present invention allow documents to be filed using a single button click, hence the term shortcut.

With regard to claims 13, the Examiner states that "Lewak teaches a method of opening a saved file and invoking an FC manager with a "Categorize" command for category selection by the user." (See column 8, lines 1-5). As discussed in Applicant's previous response, while Lewak et al. discloses a method for user categorization of a saved file, Applicants respectively point out that Lewak does not disclose or suggest the automated system classification

of claim 13. In Applicant's classifying step, predictions are made about what the most likely category labels are for each incoming document and those labels are stored with the document. The system does not assign a category to the document at this time nor does this step involve the user. Instead, the category labels are stored to be presented to the user when the user wishes to categorize the document.

With regard to claim 14, the Examiner states that "Lewak teaches a method whereby upon the category of E-mail is selected for a file, the user is given indication of related linked category descriptions." (See column 15, lines 39-51). See Applicants' comments hereinabove with regard to claims 12 and 13.

With regard to claim 15, the Examiner states that "Lewak teaches a method whereby linked category descriptions are indicated to the user by way of a distinctive style, or check mark, or a descriptive dialog box." (See column 15, lines 5-55). The Examiner also states that "Lewak also teaches a method of categorizing an opened file at the point of a first save to disk." (See column 7, lines 55-67). In addition to the lack of disclosure of shortcuts or display buttons in general, while Lewak et al. does disclose the use of a categorization window, as shown in Fig. 5, Lewak does not disclose or suggest that the window is displayed with the document.

With regard to claim 16, the Examiner states that "Lewak teaches a method of a file manager display showing a column file type and category entries in alphabetical order, along with three other columns of categories, each column containing different entries in alphabetical order." Lewak fails to disclose, in Fig. 5 or otherwise, the step of creating an ordered set of the plurality of most likely categorical labels and displaying them with the document prepended to a standard ordered set of other categorical labels. In other words, there is no disclosure or

suggestion in Lewak to provide suggested categories before the actual column lists shown in Fig. 5.

With regard to claim 17, the Examiner states that Lewak teaches a method whereby upon the selection of a categorize button on an open file, an FC manager is run, producing a file manager display showing current categories. Lewak fails to disclose or suggest that the classifying step of the automated classifier occurs substantially simultaneously with the displaying step. This is very different from the disclosed user-initiated classification of Lewak.

With regard to claim 23, the Examiner states that "Lewak teaches a method whereby a user chooses a "categorize" command to recategorize an already categorized file." Lewak and Herz fail to disclose or suggest that the retraining step of the present invention is accomplished in response to the labeling step.

With regard to claim 24, the Examiner states that "Lewak teaches a method whereby a file control system retrieves the file path previously saved, and analyzes the saved file for categorization." As discussed hereinabove, Lewak does not disclose or suggest an automated retraining step. Furthermore, the Lewak system does not in response to addition data, retrain a classifier. There is no classifier disclosed to retrain. Claim 24 specifies that the system retrains its classifier whenever a document is assigned a new label. Lewak only analyzes saved files to determine if they have been categorized at all or if their current location in the OS file structure has changed. The present invention analyzes saved files to see if their categorizations have changed and this information is used to retrain the classifier to improve future predictions.

With regard to claim 27, the same argument applies. Specifically, Lewak fails to disclose or suggest any retraining in response to a deletion of a file.

With regard to claims 33-36, retraining involves updating a classifier to improve future predictions. The retraining occurs immediately after a document is filed and with no interaction by the user. The categorize button in Lewak can occur at anytime after the document is first filed, requires user intervention, and has nothing to do with maintaining the accuracy of a predictive component.

The Examiner has also rejected claims 37-43 and 46 under 35 U.S.C. 103(a) as being unpatentable over Lewak and Herz further in view of Lang. Applicants traverse the Examiner's positions as follows.

With regard to claim 37, the categorization step described in Lewak cannot be equated with our use of a classifier to predict where the user is likely to file each message. As a result, combining it with Lang is irrelevant. The present invention, as claimed, recites the use of TF-IDF or tokenization for predicting where a user is likely to file documents in order to improve the efficiency in which they can file those documents.

With regard to claim 38, Lang is only similar to the present invention in the sense that both throw out objects below a certain threshold. The objects thrown out in each case are different and are done for different reasons. Lang throws out tokens below a certain threshold to reduce the size of its stored index and to reduce the running time of the system. The present invention uses a threshold on folders to decide what suggestions to make to the user. The advantage of using a threshold to decide what buttons to present to the user is it helps prevent cluttering the user's display with unnecessary buttons and also reduces the cognitive load of the user it deciding which button to select.
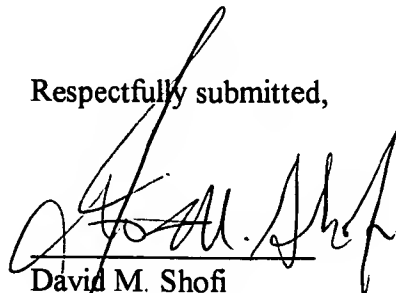
With regard to claim 40, the categorization step described by Lewak cannot be equated with our use of a classifier to predict where the user is likely to file each message. Lang's

method of partitioning a data stream to individual documents is not the same as separately tokenizing regions of a single document. Lang's method is used to break up an information stream into meaningful parts. The present method takes a document which has already been separated into multiple parts by the document creator and uses those partitions to improve the predictive accuracy of our classifier. In particular, it tokenizes each section separately and assigns words appearing in each section to separate tokens to ensure that words appearing in each section is assigned their own TF-IDF weight. The result is that the predictive classifier of the present invention will assign higher weights to the sections of the document that are most important for predicting where each document will be filed by the user.

With regard to the remaining dependent claims to which an obviousness rejection has been given by the Examiner, there is no suggestion to combine the references. Specifically, there is no suggestion found in either of the references to combine the Lewak and Herz patents with the Netscape publication. Any combination is merely a use of inappropriate hindsight reasoning.

Therefore, the combination of Lewak and the other cited references, fails to disclose all the limitations of any of the pending claims of the present application. In view of this, favorable consideration and prompt allowance of claims 11-21 and 23-61 are respectfully requested.

Respectfully submitted,

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